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# Worldwide Report

TELECOMMUNICATIONS POLICY,  
RESEARCH AND DEVELOPMENT

No. 224



FOREIGN BROADCAST INFORMATION SERVICE

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28 June 1982

WORLDWIDE REPORT  
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BRIEFS

MOSCOW TO LAUNCH INDIAN SATELLITE--The Soviet Union which put into orbit three Indian-made satellites during the past few years is to launch another Indian-built satellite in the mid-1980's. An agreement to this effect was signed in Moscow yesterday between a team of Indian experts led by Dr Satish Dhawan and a Soviet space agency. [Text] [BK220935 Delhi Domestic Service in English 0830 GMT 22 May 82]

KAMPUCHEA, BULGARIA RADIO AGREEMENT--Phnom Penh, 22 May (SPK)--An agreement on radio cooperation between Bulgaria and Kampuchea was recently signed in Sofia, according to sources in the Bulgarian capital. Under this agreement, signed at the end of the visit to Bulgaria by Van Sun Heng, deputy director general of the Voice of the People of Kampuchea radio, Kampuchea and Bulgaria will exchange information on the achievements and the expansion of relations between the two countries as well as special programs. On the other hand, Bulgaria will train technicians for the national radio of Kampuchea. [Text] [BK220856 Phnom Penh SPK in French 0357 GMT 22 May 82]

ALGERIA, HUNGARY MEDIA AGREEMENT--Algiers, 3 Jun (APS)--Mr Boualem Bessaiah, Central Committee member, minister of information, audienced yesterday here, Mr Istvan Hars, Central Committee member of Hungarian Workers' Party, president of the Hungarian Radio, who is on a visit in Algeria in the framework of the reinforcement of relations between the Algerian and the Hungarian televisions and radios. In this regard, an agreement dealing with a working programme in the field of T.V. and radio was signed yesterday by the two agencies. This agreement aims at reinforcing the fruitful cooperation between both agencies, by the exchange of programmes, information and experience. [Text] [Algiers APS in English 1032 GMT 3 Jun 82 LD]

SOVIET-LEBANESE TV PROTOCOL--Moscow, 7 Jun, TASS--A delegation of Lebanese television workers has stayed in the Soviet Union at the invitation of the USSR state television and radio committee. Talks were held with chairman of the Soviet committee Sergey Lapin. A protocol was signed on cooperation between the Soviet television and radio committee and the Lebanese television company for 1982-1984. Lebanon's Minister of Information Michel Iddih, the head of the delegation, had meetings and conversations with chairman of the board of the USSR union of journalists, editor-in-chief of the newspaper PRAVDA Viktor Afanasyev, TASS director general Sergey Losev, chairman of the board of APN press agency Lev Tolkunov. Questions of expanding cooperation between the mass media of the two countries were discussed. [Text] [Moscow TASS in English 1323 GMT 7 Jun 82 LD]



USSR, CUBA, MONGOLIA PROTOCOLS--A working protocol for 1982-83 was signed in Moscow today on cooperation in television and radio broadcasting between the USSR's Gosteleradio and the Cuban Institute of Radio and Television. Also today, a working protocol for 1982-83 was signed on cooperation in television and radio broadcasting between the USSR's Gosteleradio and the Mongolian council of ministers state committee for information, radio and television. Further development in the exchange of television and radio materials is envisaged. The protocols were signed by Lyapin, chairman of USSR Gosteleradio; Herrera, chairman of the Cuban Institute of Radio and Television; Purebjab, chairman of the Mongolian state committee, for information radio and television. [Text] [LD282306 Moscow Domestic Service in Russian 1800 GMT 28 May 82]

AGREEMENT WITH BTA--A cooperation agreement between the Athens News Agency [APE] and BTA was signed in Sofia today by the directors general of the two agencies. The text of the agreements provides for the development of relations between the two organizations and the exchange of information on matters concerning the area as well as on political, economic and cultural life in the two countries. [Text] [NC012134 Athens Armed Forces Radio in Greek 1000 GMT 1 Jun 82 NC]

CSO: 5500/2263

## INTER-ASIAN AFFAIRS

### BRIEFS

LAOS, KAMPUCHEA TO EXCHANGE PROGRAMS--Vientiane, 28 May (KPL)--Laos and Kampuchea are to exchange radio and TV programs, according to minutes of the talks signed here on May 26. The signing of this document is a further step in the implementation of the 1981 memorandum on ideological coordination among the three Indochinese countries with a view to commonly fighting against enemies and for national construction. The two sides agreed to exchange news, reportages, interviews, pictures and other materials. Signing the minutes were, on the Lao side, director of the Lao national radio Chaleun Vongsam-Ang, and, on the Kampuchean side, the president of Kampuchean people's radio. [Text] [BK281135 Vientiane KPL in English 0903 GMT 28 May 82]

BSS-KCNA ACCORD--PYONGYOUNG, May 18--A news exchange agreement between Bangladesh Sangbad Sangstha (BSS) and the Korean Central News Agency (KCNA) was signed here last Saturday, says BSS. The agreement was initialled by Mr. Abul Hashem, General Manager and Chief Editor of BSS, and Mr. Kim Song Gol, General Director of KCNA, the national news agency of the Democratic Peoples Republic of Korea (DPRK). Mr. Hashem was in the North Korean capital to attend the seventh meeting of the Coordinating Committee of the News Agencies Pool of the non-Aligned countries. [Dacca THE BANGLADESH OBSERVER in English 19 May 82 p8]

CSO: 5500/7149

# GOVERNMENT AWARDS \$166 MILLION CONTRACT FOR DOMESTIC SATELLITE

## Sinclair Announcement

Brisbane THE COURIER-MAIL in English 7 May 82 p 3

[Text]

CANBERRA. — Australia's new domestic satellite system was given the final go-ahead yesterday with the placing of a \$166 million contract.

The Communications Minister Mr Sinclair, announced that Hughes Communication International had won the contract for three satellites and two ground control systems.

Australian industry could receive orders worth more than \$120 million from associated space and earth station contracts.

Mr Sinclair said Aussat, the company formed by the Government, to own and operate the system, would establish and own eight stations in major cities.

Private organisations would be free to establish their own earth stations to have access to the satellite system on the same basis as Aussat.

The Australian Broadcasting Commission would have its own stations in Rockhampton, Townsville and other centres.

Yesterday's announcement completed three vital aspects of the system before all major cities can be linked to it by May, 1983.

The package involves the final authorisation for the Hughes contract, the ownership of the two ground control stations and financing for the system.

Mr Sinclair said negotiations were continuing on a contract for the eight stations.

## Satellite Capabilities

Melbourne THE AGE in English 7 May 82 p 6

[Article by Michael Gordon]

[Text]

CANBERRA. — The Government's decision to launch Australia's satellite system was a foregone conclusion, despite last-minute concern over the cost.

If Cabinet blocked the project, it would have undone a series of costly decisions — and a lot of hard work — since the Government decided in principle during October 1979, to establish the system.

The satellite's suggested advantages were pointed out in a recent national lecture tour by two senior members of Aussat Pty Ltd, the company set up by the Government in late 1981 to own and manage the system.

Aussat's general manager and chief executive, Mr Graham Gosewinckel, said the satellite would add flexibility, reliability and resilience to the domestic telecommunications network.

He said the system would act as a catalyst for new services "some we can't even dream of at this time", as well as improving telephone, radio, television and data services.

Mr Gosewinckel dismissed recent reports that the cost had risen to around \$600 million, saying that if the figures "floating around" were to be believed "you would have a flying Opera House on your hands".

He said that was certainly not the case. The system was a viable operation and Aussat would be paying a dividend some three or four years after the satellite's launch.

The system was developed by 15 Australian engineers. After launch in mid-1985, an operational satellite and a spare will orbit 36,000 kilometres above the Equator, just to the east of Australia.

The satellites will have the ability to "blanket" Australia and transmit and receive from land-based dish-type antennas.

The antennas owned by Aussat will range from a diameter of 11 metres on large city stations, and will be used by the ABC for radio and television programme distribution (and other organisations for business, broadcasting and other services) to a diameter of about 1.5 metre reception — on antennas, which will enable remote homesteads to receive TV and radio programmes.

In between, stations will be provided to enable Telecom to supply an automated phone service for remote areas. Stations will also be owned by the Department of Transport for air traffic control purposes, and others bought by users such as police and education authorities, mining companies, and broadcasters.

The satellite will transmit one national beam covering the country, one spot to four sections of similar size, and one for Papua New Guinea. It will have a beam to receive signals from anywhere in Australia and one to receive from PNG.

Signals from the stations will be processed through transponders on the satellite and relayed to their destination. Aussat will derive its revenue from users. Commercial television will be the biggest and will pay for the use of the transponders.

The tariff table for use of transponders is still to be determined; a number of business interests are reported to have postponed crucial decisions on the satellite's use.

One of the achievements of the all-Australian design team will be the simultaneous transmission of radio and TV programmes to remote areas under the homestead and community broadcasting satellite service.

Mr Gosewinckel gave this example of how the satellite would operate:

The ABC would transmit its

Perth programme to the satellite. This would pass through one of the high-powered transponders and be sent back on the spot beam covering Western Australia.

The signal would have a dual purpose. It would be used for the reception of regional stations, which now rely on land line, and would be of sufficient strength to be received by the 1.5-metre antennas on homesteads which cannot yet receive radio or TV.

The remote dweller would be able to buy an antenna from a department store for about \$1000, with a television set and an FM radio receiver, Mr Gosewinckel said.

While Aussat is presently solely owned by the Government, it is expected to sell 49 per cent of the shareholding on the Stock Exchange.

Another decision to be made by Aussat is which agency will launch the satellite. Launch reservations have been made with the space shuttle being developed by NASA, the Ariane launcher being developed by the European consortium Arianespace, and the Delta expendable launch vehicle which has been in service for more than 20 years.

The choice between the shuttle and Ariane will be difficult. While a launch on the shuttle will be about \$14.5 million until mid-1985, the amount of fuel needed to launch from 28 degrees north of the Equator will mean the satellite will have a maximum life of seven years. Ariane will cost around \$23 million each launch but the launch would be closer to the Equator and would conserve fuel, facilitating an additional two-year operational span.

The decision is further complicated by the fact that neither one is yet fully operational. Ariane has warned that if Aussat takes too long to make up its mind it could delay the launch and add to the cost, or both. The decision is expected before the end of this year.

Despite the advantages and uses of the system, some people (although diminishing in number) are yet to be convinced of the need for a satellite.

The Federal secretary of the Australian Telecommunications Employees' Association, Mr Bill Mansfield, recently said the association could not see the satellite providing any service which could not be more efficiently provided by Telecom's "terrestrial" network "other than bringing ABC television to a maximum of 40,000 viewers in outback areas".

# BENEFITS OF DOMESTIC SATELLITE TO TV VIEWERS REVIEWED

Sydney THE SYDNEY MORNING HERALD in English 1 May 82 p 4

[Text]

Australia's proposed \$350 million national satellite system, Aussat, is expected to be given final approval by the Federal Government next week. It will greatly increase the capacity of the major television stations to link up with regional stations and sister stations interstate, and it will eradicate the present congestion on the existing terrestrial links operated by Telecom. BRETT WRIGHT reports on how it will affect domestic TV users and who will benefit the most.

When Aussat, the Australian communications satellite system, goes up in June, 1985, people in rural and outback areas will be able to receive up to eight extra TV channels and three times as many radio channels, directly into their homes.

The equipment required consists of a dish-shaped antenna of up to 1.8 metres in diameter, a cable running to the TV set and a frequency conversion device called a down-converter that sits on top of the TV set.

Estimates of the cost vary considerably. The Department of Communications says the wholesale price of the dish will be about \$1,500. The Federation of Commercial Television Stations (FACTS) says, however, that with a production run of more than 50,000 units the wholesale price should be about \$1,000.

The Federal director of FACTS, Mr James Malone, said that by 1985 the cost may be lower than it is today because of the possibility that American manufacturers may export to Australia dishes made in very long production runs for the

US market.

The alignment of the dish is crucial. It needs to be pointing within half a degree of arc of the satellite for an acceptable reception. This means that the dish needs to be carefully aligned and firmly secured either to a concrete base on the ground or with strong bolts on a roof.

People in isolated areas, who at present receive no television broadcasts, will be able to receive the Homestead and Community Broadcasting Satellite Service (HACBSS) which, initially, will be ABC-TV and ABC radio.

As at least two satellites will be used in conjunction, there is a strong likelihood that a commercial television service, or a special broadcasting service, will be available later.

These two services — ABC-TV and one other channel — are called HACBSS 1 and 2, respectively.

There are about 350,000 households in outback Australia that could benefit from HACBSS 1 and 2.

As both HACBSS 1 and 2 will be broadcast by relatively powerful 30-watt transmitters on each of two satellites 4,000 kilometres apart, people will be able to receive directly both services anywhere in Australia by using a steerable dish antenna which can be switched from one satellite to the other at the push of a button.

The satellites will be set above the equator in a geo-stationary orbit. This means they keep pace with the Earth's rotation.

For HACBSS transmissions, the Australian continent has been provisionally divided into so-called footprints — vast regional reception areas.

Within each footprint there will be a primary reception zone, within which people will get high quality reception. This primary zone will cover all but the peripheral 20 per cent of each footprint.

To get optimum reception in the primary zone, it will be necessary to have a dish antenna of only 1.2 metres in diameter. The cost of this is estimated by FACTS to be about \$450 to \$550. The Department of Communications says \$1,000.

Outside the primary zone, however, people will have to get the bigger 1.8 metre dish. The bigger dish is also capable of receiving additional low-power transmissions which the smaller ones will not.

Each satellite will have the capacity to send three of these low-power television beams, in addition to the high-power HACBSS beams. The question is, what will these low-power beams be used for, and by whom?

So far the only purpose for the low-power beams that the Federal Government is certain to permit is for station-to-station transmissions by the television networks. Used as such the transmissions would be made on national basis, rather than by footprints.

Broadcast nationally, the low-power transmissions would be too weak for any sort of home receiver - be it 1.2 metre or 1.8 metre - to pick up.

If the Government wants to,

however, it will be able to have these beams focussed directly on to a single footprint. The signal will thus be made strong enough to be picked up by home receivers, allowing a network to broadcast directly in competition with the regional television companies.

If three satellites are used, and this is still a possibility, then as many as nine extra TV channels will be available.

It is this prospect that is worrying the regional television companies. In rural areas, at present, television watchers have a choice between one local commercial TV channel and the ABC.

With a 1.8 metre steerable dish, these people may be able to receive up to another six TV channels, plus an assortment of AM and FM radio channels, as well as HACBSS 1 and 2.

The general manager of NRN-11 in Coffs Harbour, Mr John MacKensie, said this week that they would be "greatly concerned if there was any intrusion by metropolitan stations" into their area via Aussat.

Hughes Communications International, an American company, has already won the tender for building the space vehicles of the satellite system. Mitsubishi is the preferred tenderer for the major ground stations, which will be in each capital city and in major country towns.

PAPUA NEW GUINEA TO HAVE ACCESS TO AUSTRALIAN SATELLITE

Canberra THE AUSTRALIAN in English 3 May 82 p 23

[Article by Nicholas Rothwell]

[Text]

AUSTRALIA'S new national satellite system, to be launched in 1985, will give the people of Papua New Guinea their first taste of the space telecommunications age, a top official of the AUSSAT company said yesterday.

Mr Don Kennedy, a senior executive of the company set up to operate the satellite system, told the Electronic Data Processing Auditor Association conference in Sydney the Australian system would include provisions for use by Papua New Guinea.

TV stations, businesses, Telecom and the Department of Transport would all be major users of this system and each will buy the services of the satellite but provide their own brand receiving "dishes" to pick up its signals.

Mr Kennedy also told the meeting that an innovative

scheme to provide gateways to the satellite network in the form of giant ground stations was being considered by the Federal Government.

This project, known as the major city earth station network, would be provided by AUSSAT and be the point of access to the satellite for businesses that did not have their own ground stations.

A special spot beam would cover Papua-New Guinea and will give the country its own self-contained satellite communications system.

Australia would not have any major influence over the Papua-New Guinea system, since the only signal that could be transmitted to receivers in Papua-New Guinea would be those sent from inside the country.

The satellite would be 100 deg east on the Equator (just east of Australia) and hover in a fixed orbit.

CSO: 5500/7541



# DIGITAL FACSIMILE SYSTEM BRINGS DATA TO PARLIAMENT

Canberra THE AUSTRALIAN in English 3 May 82 p 23

[Text]

INFORMATION for senators and members of the House of Representatives is being sent to Parliament House, Canberra, in 30 seconds with a 3M digital facsimile system.

Facsimile gives photocopy-like reproduction of material at high speed over a telephone line.

The system has been installed with the aim of improving communications between the Parliament House library and politicians.

3M Australia national sales and marketing manager for business communications products, Mr David Judge, said the average transmission time for a standard page on the 9600 was about 30 seconds.

But on a good phone line, transmission took only 20 seconds.

The machine, which could send and receive messages at the same time, was the standard for high-speed facsimile communications in North America, Mr Judge said.

He said that the Parliamentary library installed the 9600 digital machines because they

delivered consistently high quality messages and could cope with time constraints imposed by Parliamentary business.

There are two 9600 machines, one at Parliament House and the other at the Parliament House annex.

But the system could be easily expanded by installing low-cost briefcase-size 9136 facsimile units in each member's office, said Mr Judge.

The 9136 units also could be installed in members' homes and electorate offices.

Mr Judge said the 9600 continuously read telephone-line quality, compensating for inferior lines by slowing or increasing transmission when line quality varies.

Such an arrangement gives good reproduction with minimum transmission cost, according to Mr Judge.

He said many other facsimile machines depended on the operator to assess line quality or have partial monitor to slow transmission if line quality dropped, but no automatic ability to boost speed if quality improved.

CSO: 5500/7541



# NORTHERN WA SEEING IMPROVEMENTS IN COMMUNICATIONS

## Kununurra Phone Upgrading

Perth THE WEST AUSTRALIAN in English 6 May 82 News of the North p 4

[Text]

Work has begun on a new telephone exchange at Kununurra that will provide the town with the latest in communications facilities by late 1983.

According to Telecom's district manager, Colin Ross, the exchange will start a new era for local residents.

"For the first time the people of Kununurra will have telecommunications facilities equal to those of people anywhere in Australia," he said.

The single storey building will be located on the site of the existing exchange at the corner of Banksia and Konkerberry Streets.

This is near the centre of the town and in accordance with plans for the aesthetic development of the area. Telecom has agreed to relocate its lineyards in the light industrial area on the southern side of Kununurra.

Mr Ross said the building itself would cost \$401,000.

The contract had been let to the Perth building firm of J. Nylander and Company and the work was due for

completion in early September.

The project would be oversighted by the Department of Housing and construction.

It would be a steel framed structure with concrete block walls and metal roof decking and would have a floor area of some 350 square metres.

Mr Ross said that once the building had been completed new telephone exchange equipment costing \$890,000 would be installed to coincide with the completion of the second stage of the Kimberley microwave project.

This \$17.8m. project is currently extending the automatic telephone network from Port Hedland to Broome, Derby, Kununurra and Wyndham.

The new exchange, Mr Ross said, would have a capacity of 200 lines which, on current forecasts was expected to cater for the development and growth in the Kununurra telephone district for the next 10 years.

Coupled with the Kimberley microwave project it would provide full communicating STD and ISD to Kununurra.

## Microwave Dishes

Perth THE WEST AUSTRALIAN in English 6 May 82 News of the North p 1

[Text] Two huge dishes were hoisted to the top of Telecom's new microwave telecommunications tower in South Hedland last week to signal the near-completion of the \$15.7 million Kimberley microwave system. The technical wiring has still to be completed for the system, which is expected to be operating by next year. The 68-metre tower, the last to be built in the system, will be a terminal for the microwave system, which will link Port Hedland to Derby, Broome and Kununurra. Forty-three repeater towers are involved in the system. Picture: JOHN EVANS. [Photo not reproduced]

CSO: 5500/7541

OFFICIAL TELLS PLANS FOR TELEPHONE IMPROVEMENT

Dacca THE BANGLADESH OBSERVER in English 21 May 82 pp 1, 12

[Text]

**MAULVIBAZAR, May 20.**—The Deputy Chief Martial Law Administrator and Adviser for the Ministry of Communication, Rear Admiral Mahbub Ali Khan has said that the government is considering to increase the existing single line telecommunication channel between Sylhet and the United Kingdom reports BSS.

The STD channels from Sylhet to Dacca would also be increased from the existing six to 24 by next month Admiral Khan said while inaugurating the new 400-line automatic telephone exchange here yesterday.

This new exchange which had replaced the old one of 200 lines has provision for expansion up to 1,000 lines. The equipment of the exchange including power plant have been manufactured by the Telephone Shilpa Sangstha of Tonga.

The new telephone exchange project was implemented at a cost of Taka one crore and six lakhs and the technicians of the Telephone and Telegraph Board carried out the installation work.

Speaking on the occasion the DCMLA said that the present regime had given priority for the development of communication sector as the overall economic prosperity of the country depended on a reliable and rapidly acting network of communication. He said that the new 400-line automatic telephone exchange at Sreemangal would also be commissioned by December next as per a time-bound framework for such works.

In this respect he further said that the entire country would be covered under nationwide dialling system by 1983.

Mr. A. B. M. Taher Chairman T and T Board also spoke on the occasion. The Sub Zonal Martial Law Administra-

tor Brig. Ameen was present at the inaugural ceremony.

The DCMLA who arrived at Sylhet yesterday morning offered Fatcha at the mazar of Hazrat Shah Jalal and Hazrat Shah Paran.

RIG LA odyah hdot shdir

He visited the Sadipur and Sherpur ferry shat in between Sylhet and Maulvibazar. He directed the concerned officials to develop the shats with provision for parking place for vehicles waiting room with drinking water and toilet facilities and proper lighting arrangements at night. He also directed them to improve the shat approach road by further widening the same.

The DCMLA also inspected the under construction Hazrat Shah Jalal Bridge (Surma). The bridge now under construction at a cost of Taka 10 crore will connect two sides of the Sylhet Town over Surma River and will relieve the heavy congestion on old Keane Bridge. The 1038-feet long bridge will have seven spans of 143 feet 6 inches each. The construction work which commenced in April 1981 is scheduled to be completed by the end of next year.

Rear Admiral Khan went round the construction site and enquired about the progress of work from the construction engineers and the Chief Engineer of the Roads and Highways Department who was present on the occasion. He directed them to acquire land for the bridge approach and simultaneously complete all other connected works so that the bridge on completion can be put to use immediately.

In this respect he directed the Roads and Highways Department to maintain a close and intimate supervision on construction work even though a consultant is engaged. He was happy to know that a local firm is engaged in consultancy.

## INDIA RADIO ADOPTS THREE-TIER BROADCASTING

Madras THE HINDU in English 17 May 82 p 9

[Text]

NEW DELHI, May 16.

The decision to name the broadcasting service "Akashvani" in place of AIR has been taken in response to demands made at a recent meeting of the Hindi Advisory Committee, attached to the Information and Broadcasting Ministry, it is officially explained.

At a meeting of the Committee on May 10, some members suggested that "Akashvani" be used for all programmes and news bulletins and that the use of AIR for broadcasts in English and some other items be scrapped for uniformity. If television is known as "Doordarshan" everywhere, there is no harm in switching over to "Akashvani" for AIR, they said. The Information and Broadcasting Minister, Mr. Vasant Sathia, accepted the suggestion.

Under the new arrangement, it will be "Akashvani" for all programmes and news broadcasts for domestic listeners, and AIR for external services. "AIR" is not being discontinued altogether, according to an official spokesman.

Three-tier broadcasting: At the same time, the authorities have decided to opt for a three-tier broadcasting system, national,

regional and local. This is intended to remove the inadequacy of the old system, which, on the one hand, binds the regional stations to relay Centrally-produced programmes at peak listening hours at the cost of the items of special interest to their areas, and, on the other, restricts the coverage of national programmes, both in number and duration. The national service, broadcast for nearly 18 hours a day, will attempt to reflect the broad spectrum of national life and complement the regional and local services.

National channel network: The national channel network will consist of a 1000 kW medium wave transmitter at Nagpur, a 200 kW transmitter at Bangalore and 30 kW transmitter at Baroda, and several smaller transmitters, proposed to be connected through INSAT-1. When the national channel is commissioned, the regional centres will form the middle tier with emphasis on regional programmes. Local radio stations, the third tier, will be located at the district headquarters and will serve small areas. The accent of programmes of these stations will be on local problems and the arrangement will encourage the local talents, it is pointed out.

CSC: 5500/7148

## INDIA

### BRIEFS

NEW EARTH STATIONS--Telecommunication link between Rajasthan and the rest of the country will become reliable and quick when the Insat-1A becomes operational in June. To start with, Rajasthan will have two earth stations: a primary station at Jaipur and a remote station at Jodhpur. Forty-eight circuits will be made available to Jaipur for connecting it with Madras and Calcutta trunk automatic exchanges. [BK271221 Delhi Domestic Service in English 0830 GMT 25 May 82 BK]

CSO: 5500/2263

**DIRECT TELECOMMUNICATIONS SYSTEM NOW IN USE**

**BK271455 Jakarta Domestic Service in Indonesian 2300 GMT 26 May 82**

[Text] Indonesia now can directly communicate with 50 foreign countries through the international communications hookup. The marketing/junior director of the telecommunications public corporation, Murcahyo, told newsmen in Medan yesterday that Indonesia has for some time been using the 480-channel undersea telecommunications cable between Jakarta and Singapore. There now are 120 earth stations throughout Indonesia to facilitate communications between the provinces.

He told a gathering of telecommunications subscribers in Medan that there are 100 towns in Indonesia which have direct long distance telecommunications connection.

CSO: 5500/2264

## INDONESIA

### BRIEFS

TELECOMMUNICATIONS DEVELOPMENT—Indonesia now can directly communicate with 50 foreign countries through the international communications hookup. The marketing junior director of the Telecommunications Public Corporation, Nurcahyo, told newsmen in Medan yesterday that Indonesia has for some time been using the 480-channel undersea telecommunications cable between Jakarta and Singapore. There now are 120 earth stations throughout Indonesia to facilitate communications between the provinces. He told a gathering of telecommunications subscribers in Medan that there are 100 towns in Indonesia which have direct long distance telecommunications connection. [Text] [BK271455 Jakarta Domestic Service in Indonesian 2300 GMT 26 May 82]

CSO: 5500/2263

COMMITTEE TO REVIEW INTERNATIONAL BROADCASTING

OW071143 Tokyo KYODO in English 1137 GMT 7 Jun 82

[Text] Tokyo, June 7, KYODO -- The Posts and Telecommunications Ministry Monday established a committee for investigation and research into international broadcasting in order to improve and strengthen Japan's public relations activities overseas.

At the same time, the ministry asked KYODO System Development Co., a leader in software technology, to conduct investigation and research into international broadcasting both from systems and technology aspects.

Improvement of international broadcasting has been a matter of great interest not only to the government and ruling Liberal-Democratic Party (LDP) but also among the opposition parties.

They have shown great interest in international broadcasting ever since the LDP's special committee on international exchange advised Prime Minister Zenko Suzuki in July last year to strengthen Japan's overseas broadcasting to promote Japan's position and thinking abroad.

With yen 8 million (dollar 32,650) appropriated, the ministry will investigate in fiscal 1982 the reception quality abroad of NHK's Radio Japan shortwave international broadcasts and study the feasibility of establishing overseas relay stations.

CSO: 5500/2264



## LUCRATIVE MARKET FOR TELECOMMUNICATIONS EQUIPMENT

Kuala Lumpur BUSINESS TIMES in English 17 May 82 p 6

[Excerpts]

THE emphasis placed by Malaysia in expanding and improving its telecommunications network has made the country a lucrative market for manufacturers and suppliers of telecommunications equipment from all over world.

Under the Fourth Malaysia Plan, the Telecommunications Department has been allocated a hefty sum of \$4.45 billion to further develop and modernise the telecommunications system.

The projects to be implemented under the Plan include improving and extending the local subscribers' network and automatic exchanges as well as the trunk and junction network to meet Malaysia's future needs.

The target is to have 1.2 million telephones installed and telex services for 15,000 subscribers by 1985.

As such, leading manufacturers like Philips, ITT, NEC, LM Ericsson, Siemens, GEC and Fujitsu have been scrambling for the lucrative business here.

**ERICSSON**

WITH a wide product range of telephone exchanges, instruments, transmission systems, electronic switching systems, cable and network products, intercom systems and with operations in more than 100 countries, the LM Ericsson Group is one of the few organisations capable of meeting these growing demands.

"The group, for decades a leader in switching

technology, has had notable success in launching its new SPC (stored programme control) exchange system for telephone and telex and data on the world market.

Known as the AXE system, more than 30 countries, including Malaysia, have adopted the system, since it was introduced in the mid-70s.

The first such system in Malaysia was installed in Petaling Jaya, in 1980, with a capacity of 20,000 lines.

Later, another two were installed in Sibu (10,000 lines) and Batu, Kuala Lumpur (10,000 lines). In March this year, the AXB 20 telex exchange was installed in Kuala Lumpur to modernise the telex network.

As one of the Ericsson group's most successful subsidiaries, Ericsson Telecommunications Sdn Bhd, has been involved in Malaysia's progress in the telecommunications field since the mid-1960s when it won a contract to supply crossbar exchange equipment as the standard system for Malaysia's rapidly growing public telephone system.

**PERNAS-NEC**

ANOTHER world leader in the telecommunications field is the Nippon Electric Company (NEC).

NEC's joint venture company in Malaysia is Pernas-NEC Telecommunications Sdn Bhd, which last year was awarded what is believed

to be the largest telecommunications contract in Malaysia.

The 10-year contract, valued at about \$1.0 billion, is for the supply of 1.67 million lines of SPC (stored programme control) telephone exchange equipment between 1981 and 1990.

In March this year, the company signed another multi-million contract with the Telecommunications Department to supply engineering services, that is to install and equip the NEAX 61 equipment at the exchanges.

Pernas-NEC was formed in 1973 and commenced production of Frequency Division Multiplex (FDM) equipment, mainly for the Telecom Department. To date, it has produced some 70,000 channels of multiplex equipment at an average annual rate of 10,000 channels.

**SIEMENS**

SIEMENS, a leading company in West Germany, is the world's fourth largest in the field of electronic and electrical engineering and employs more than 320,000 people in 130 countries.

In Malaysia it has about 4,000 employees in its factories in Malacca (Siemens Components Sdn Bhd), Penang (Litronix (M) Sdn Bhd) and in Petaling Jaya (Bistaria Telecommunications Industries Sdn Bhd).

Siemens has offered its EWSD switching system for Malaysian public telecommunications

networks. The company also offers digital technology in fields of communications, computers and components.

**ITT**

Unlike subsidiaries of most other multinational companies, ITT subsidiaries have each the capability of total independence and also have complete access to the fruits of ITT's total research and development efforts.

The Malaysian manufacturing unit is ITT Transelectronics (M) Sdn Bhd in Penang. Established in 1972, it produces consumer electronic goods for export. It employs a workforce of about 800.

**PHILIPS**

Some of the major telecommunications products developed and marketed by the Philips group are the analogue and digital switching systems, telex, facsimile and the Philips PLEX-D digital switching systems, the EBX 8000 and EBX 800 computerised business telephone systems and many others, both for public and private or business use.

The Philips group also provided the total air traffic control system at the new Changi Airport in Singapore and the Philips traffic management system forms the nucleus of the Kuala Lumpur computerised traffic control system in Kuala Lumpur.

# AUTOMATIC EXCHANGE TO BE INSTALLED

Kathmandu THE RISING NEPAL in English 29 May 82 p 1

[Text]

Kathmandu, May 28:

Automatic telephone exchanges are to be installed for 12 thousand lines in Kathmandu Valley and 10,750 lines in 14 towns outside the valley during the current Fifth Plan period, reports RSS.

The telephone exchanges are to provide S.T.D. service. An agreement was signed here today between Nepal Telecommunications Corporation and the Bell Telephone Manufacturing Company of Belgium for the purchase of ultramodern digital automatic trunk facilities and local exchange equipment costing a total of 248 million 400 thousand rupees.

The agreement was signed by Nepal Telecommuni-

cations Corporation General Manager Ram Prasad Sharma and B. T. M. C. Asia Pacific Regional Manager C. Morel.

According to the agreement the foreign exchange component needed, equivalent to 109 million rupees, will be received as loan from the World Bank.

The rest of the cost will be borne by His Majesty's Government.

The new telephone exchanges will go into operation between the end of 1983 and the middle of 1985.

The new exchange come under the policy of gradually expanding telecommunications by providing local exchanges in all zonal headquarters and trunk services.

## PAKISTAN

### BRIEFS

ACCESS TO SATELLITE--Pakistan is now able to have access to Intelsat V Satellite series and also cater for future requirement of Pakistan overseas traffic, following completion recently of modifications and expansion of the Dehmandhero, satellite earth station, near Karachi. This was stated by Mr. Irfan Ali Khan, director (satellite) and Station Manager, Jehmandhero, satellite earth station, in a lecture to students at Ned Engineering University held under the auspices of the institute of electrical and electronic engineer on May 20. [Excerpt] [Karachi DAWN in English 23 May 82 p 13 GF]

CSO: 5500/2264

PEOPLE'S REPUBLIC OF CHINA

SATELLITE COMMUNICATIONS EXPERIMENT PLANNED

OW311240 Beijing XINHUA in English 1227 GMT 31 May 82

[Text] Beijing, May 31 (XINHUA) -- China will conduct an experiment in domestic satellite communications and T.V. transmission by using a satellite of the International Telecommunications Satellite Organization (Intelsat) in the Indian Ocean region from June 6 to August 6. Ten ground satellite stations in Beijing, Shanghai and other sites will take part in the experiment, a spokesman for the Ministry of Posts and Telecommunications said today. The experiment, according to the spokesman, will solve problems involved in meeting the communications needs of various departments and China's remote border regions and will pave the way for the establishment of China's own domestic satellite communications system.

The spokesman said the experiment will be carried out at a control station in Beijing, and receiving stations in Urumqi, Hohhot and other parts of China to verify the feasibility of transmitting TV signals, telephones, telegraphs, facsimiles and data. At the same time, ground satellite stations in the cities of Shanghai, Nanjing and Shijiazhuang will also be part of the experiment.

Some time after the experiment, the spokesman said, China will build a number of ground satellite stations in the cities of Beijing, Chengdu, Hohhot and Urumqi, to form a satellite communications network using the Intelsat satellite in the Indian Ocean.

Departments to take part in the experiment will include Ministries of Water Conservancy and Power, Electronics Industry and Posts and Telecommunications, the State Bureau of Meteorology, the Central Meteorological Bureau and XINHUA NEWS AGENCY.

CSO: 5500/2264

PEOPLE'S REPUBLIC OF CHINA

XINJIANG TV BEGINS UYGUR-LANGUAGE CHANNEL

OW011126 Beijing XINHUA in English 0745 GMT 1 Jun 82

[Text] Urumqi, Jun 1 (XINHUA)—The Xinjiang television station today begins a special channel with programs in the Uygur language, enabling minorities in Urumqi, capital of the Xinjiang Uygur Autonomous Region, to enjoy TV programs in their own language.

So far, Xinjiang is the first station to offer its minority people programs in their own language through a special TV channel.

Because Xinjiang is so far from the central television broadcasting station in Beijing, it has had to establish its own television center. Since the Xinjiang television station was set up in 1970, programs in Han and Uygur languages have to share a single channel for the lack of personnel, technique and equipment.

With the help of relevant departments of the region, the station has in the past year added equipment, transmitting centers and more than 20 minority editors and interpreters, providing the resources for opening the new channel.

The station will, through the special channel, provide four round-up programs a week, including news, art and literature, and general information. It will also run TV university courses in the Uygur language from September this year.

The autonomous region now has 12 video relay stations and 28 translator stations, giving an area inhabited by 36.8 percent of the region's population access to the programming put on by the station.

CSO: 5500/2263

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

NINGXIA TV BROADCASTING--Yinchuan, 24 May (XINHUA)--TV broadcasting has developed rapidly in Ningxia Hui Autonomous Region. A 10-story TV broadcasting center has been basically completed in Yinchuan, new equipment is being installed. So far, there are 5 big or medium-sized and 20 small TV relay stations in Ningxia. The sales of TV sets in the autonomous region in the 3 years between 1979 to 1982 increased 9 times over the total sales in the 8 years before 1978. [OW250513 Beijing XINHUA Domestic Service in Chinese 0104 GMT 24 May 82 OW]

CSO: 5500/2263

## THAILAND

### BRIEFS

**LAO TV SIGNALS--Nong Khai--**Laos has apparently begun transmitting television programmes in colour and the signal can be received in this provincial town. The signal could be monitored on Channels 5 and 6 just by beaming TV antennae toward Vientiane. The programmes usually comprise agriculture and political news also featuring Lao and Soviet high-ranking officials. Newsreels on the Falklands war were also shown. The Russian-built station is located on Route 13 between Vientiane and Luang Prabang, about 30 kilometres from Nong Khai Muang District, the source said. [Text] [BK090140 Bangkok BANGKOK POST in English 9 Jun 82 p 2]

**SATELLITE STATIONS PLANNED--**Governor Chao Thongma of the communications authority of Thailand said that the authority has a plan to set up a network of 14 satellite signal receiving stations in provinces throughout the country with the main station being located in Si Racha district, Chon Buri Province. When the plan is completed, people throughout the country will be able to simultaneously receive television programs relayed from Bangkok. It will also facilitate the long-distance telephone, telegraph and telex services as well as will make possible in future the international automatic long-distance telephone service. [BK311249 Bangkok Domestic Service in Thai 0000 GMT 29 Mar 82 BK]

**NEW TV TRANSMISSION STATION--**A new color television transmission station was officially opened on 25 April at Nakhon Ratchasima in the northeast of Thailand. This new transmission station will relay programs from the station in Khon Kaen Province through Channel 6 which can be received in Nakhon Ratchhasima and nearby provinces. This will enable the transmission of TV broadcasting by the public relations department to cover all the 16 provinces in the northeast. The government's public relations department now operates 4 television stations in the north, the northeast and the south of the country. [Excerpt] [Bangkok Domestic Service in English 0000 GMT 27 Apr 82 BK]

TELEPHONE SCRAMBLER DESIGNED--TELEPHONE eavesdroppers beware! A team of Thai engineers at King Mongkut Institute of Technology (KMIT) Lad Krabang campus has unveiled a new electronic device that can transform human speech into unrecognisable sound. The KMIT telephone scrambler is cost-effective, offers high security and is easy to install, according to Dr Sitthichai Pookaiyaudom, an electronics expert and the project's supervisor. The unit utilises programmable and continually changing codes to make eavesdropping difficult, if not impossible, and could only be descrambled with a similar set, he said. The "scrambler" works on a five alternable digits system which would allow 99,999 programme options. Its key component is a tiny Z-80 microprocessor. According to Dr Kosol Petchsuwan, the dean of KMIT engineering faculty, the "scrambler" will prove useful in both military and commercial fields and at the cost of about 20,000 baht, is several times cheaper than the imported models. The design and construction of the unit is a one-year work of Chairaj Thammavisa-wa, a graduate student there. [Bangkok BANGKOK POST in English 20 May 82 p 2]

NEW RADIO STATIONS--The director general of the Public Relations Department and the Loxley International Company representative have signed a contract for the purchase of transmitters for 11 radio stations to be set up for broadcasting educational program. The construction and installation of transmitters of the 11 radio stations will be completed between early 1983 and 1984. Radio Thailand's network 2 for educational purpose is using fund from the World Bank and the government counterpart fund totalling 314,046,935 baht. [BK281349 Bangkok Domestic Service in Thai 1300 GMT 27 May 82 BK]

CSO: 5500/2263



VIETNAM

BRIEFS

MEKONG RIVER DELTA COMMUNICATIONS—In an effort to improve the communication network in the Mekong River Delta area to serve agricultural development programs more effectively, representatives of the Ho Chi Minh City Post and Telegraph Office and those of the nine provinces in the area recently signed an emulation agreement to speed up their new task. Under this agreement each of these provinces will strive to set up 8 postal communications lines between their provinces and Ho Chi Minh City during 1982-85. When completed, the new system will help provide quick and fresh information across these provinces, especially information on guiding and supervising agricultural production. [Hanoi Domestic Service in Vietnamese 2300 GMT 20 May 82 BK]

CSO: 5500/2264

BRIEFS

BULGARIAN, SOVIET TELEVISION MEETING--Moscow, 29 May (BTA)--A meeting between Mr Stefan Tikhchev, chairman of the committee for television and radio and Mr Sergey Lapin, chairman of the state committee for broadcasting of the USSR was held in Moscow. During the talks they stressed that the tasks outlined in the cooperation plan are being fulfilled successfully and that there are possibilities for the exchange of the broadcasts to be increased. The two chairmen discussed questions related to the extension and deepening of the two countries' ties between the radio and television. [Text]  
[AU291954 Sofia BTA in English 1835 GMT 29 May 82]

CSO: 5500/2263

BRIEFS

CUBAN EQUIPMENT TO NICARAGUA--Leon--Cuban Communications Minister Pedro Guelmes Gonzalez arrived in Leon this morning accompanied by Companero (Enrique Smith), the officials in charge of the Nicaraguan Telecommunications and Postal Service, Telcop. The two leaders were welcomed by (Enrique Bolanos) and (Juan Sandoval), who are the departmental and regional heads of Telcor, respectively. Companero Guelmes told local newsmen that Cuba will share its resources with the Nicaraguan people, and that this aid will be sent soon. He added that the Cuban aid includes equipment for telecommunications systems and technical training for Nicaraguan personnel. Guelmes today began a tour of Leon and Chinandega Departments. [Text] [PA041245 Managua Domestic Service in Spanish 1800 GMT 2 Jun 82]

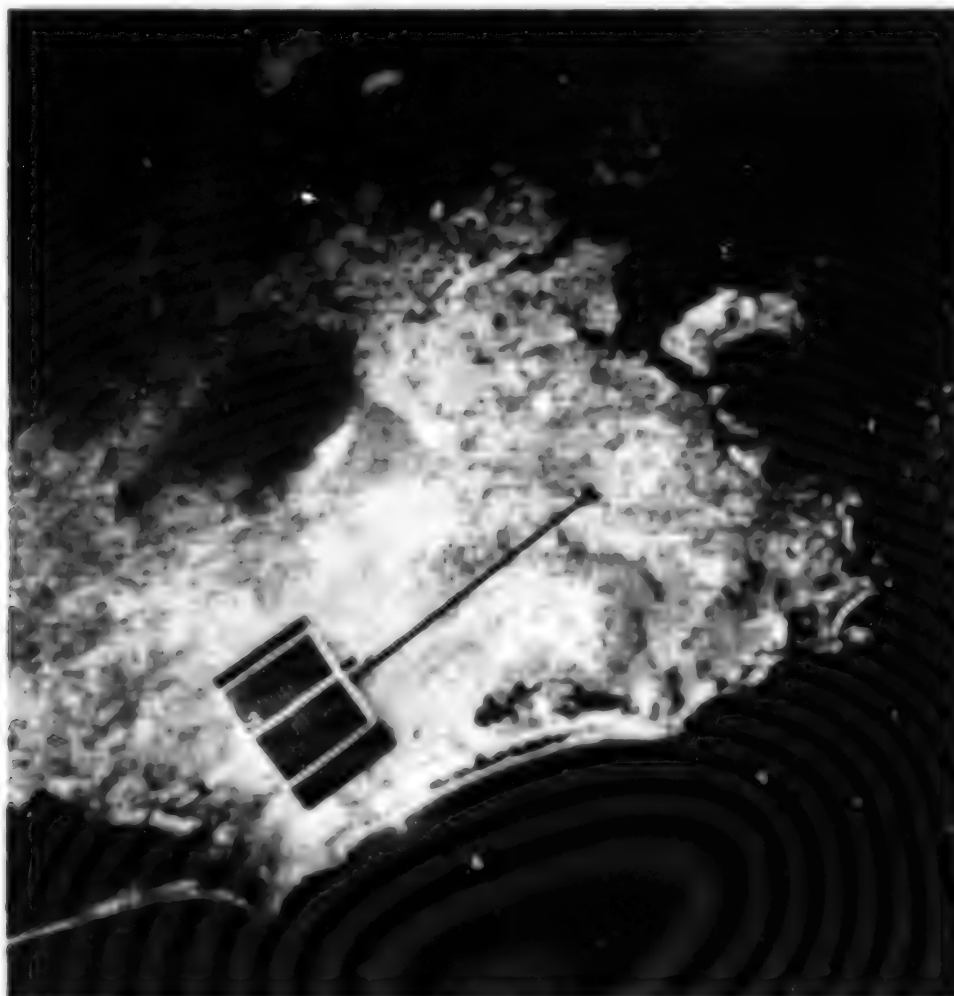
CSO: 5500/2264

NATIONALLY BUILT SATELLITE TO BE LAUNCHED BY END OF DECADE

Rio de Janeiro MANCHETE in Portuguese 15 May 82 pp 74-82

[Article by Durval Ferreira: "The Satellite Is Ours"]

[Text] On this photograph of Rio de Janeiro obtained by the cameras of the American Landsat satellite, MANCHETE superimposed the mockup of one of the four Brazilian satellites which by the end of the decade will be traveling through our space.



# O SATELITE E NOSSO

Experimentos de Observação  
Fotográfica do Voz Perseu



The telemetry antennas of the largest space laboratory in the Southern Hemisphere, located at São José dos Campos, show the advance by Brazil in the field of this new science.

It is a preview of the exploits by the 100-percent Brazilian-built space vehicles which will soon be in orbit, launched by rockets also built in Brazil. Orbiting around the poles, they will transmit remote sensing signals, showing what is taking place on the surface of the land, sea, lakes and rivers, to the space laboratories of Sao Jose dos Campos. The pictures will reveal the location of the immense natural resources of the country or the large schools of fish on the tropical seas or Amazon rivers. They may also show ballistic missile bases or armies and fleets in movement on the borders of our territorial waters. Brazilian satellites will also contribute to the efficient control of possible disasters which threaten agriculture with droughts, floods or frost. The technical advance by Brazil in this area is so great that our scientists are certain of being able to place different satellites in orbit in space with special instruments for all type of information, instruments which would also be installed in ground stations.

#### One of the Fields That Will Be Practically Revolutionized Is Meteorology

Genuinely Brazilian satellites will be launched from a base located in Alcantara, Maranhao. The space program received the name of "Completely Brazilian Space Mission" proposed by the Brazilian Space Activities Commission by special government approval. The Space Research Institute (InPE) was placed in charge of building the satellites and of supervising the earth systems associated with the launchings and orbital flights as well as with the integrations of services, tests and operation of the aforementioned space vehicles. The responsibility for the operation of the launching vehicle (rocket) which will be a Sonda IV with three stages and six engines, was given to the Space Activities Institute (IAE) of the Sao Jose dos Campos Aerospace Technical Center. According to the program, four launchings are scheduled: two data collecting satellites (meteorology) and another two of remote sensing. The first Brazilian satellite should go into orbit before the end of the present decade. Actually, according to technicians, Brazil is in a position to launch it before 1985, since space knowledge and the assimilation of specific technology are in an advanced stage of development in the InPE and the IAE. However, there is now the obstacle of a lack of funds.

The technical characteristics of the first Brazilian satellite have already been disseminated widely: It will be 1.5 meter high, weigh nearly 100 kilos and have a useful life of more than 2 years. It will be placed in a circular orbit at an altitude of 700 or 800 kilometers and will be controlled by a system specialists describe as "passive control," which operates through the gradient of gravity. Its positioning with respect to the sun will be measured by optical and magnetic sensors that will transmit the exact position and probable deviations to the earth station, which the controllers at Sao Jose dos Campos will be in a position to correct mathematically. The specific mission of this satellite will be that of retransmitting signals to earth which were transmitted by surface stations --land or maritime--for meteorological analysis by means of a repeater which receives the codes on UHF and converts them to the band compatible with the vehicle instrumentation on the S band. These signals will be resent to stations already installed in Cuiaba, Matto Grosso and Cachoeira Paulista, Sao Paulo. They will transmit detailed information on all environmental data required by specialists: wind speed, temperature of the earth's crust, relative air humidity index, possibilities of rain and subsequent changes in weather conditions.



Another aspect of the antennas at Sao Jose dos Campos





The first truly Brazilian satellite will measure 1.5 meters high, weigh 100 kilos and have a useful life of more than 2 years. The photo sequence shows how it will open the panels covered with solar cells.



### Brazilian Technicians Already have Significant Knowledge on Satellite Operation

The experience of InPE technicians in the construction and operation of data collecting stations and the use of weather satellites dates back to 1972, when the institute began to make use of the Eole satellite in cooperation with France. Since that time, four of those stations were developed and installed, which began to operate with the weather satellites Tiros-N in polar orbit; and with the Goes in geosynchronous orbit, both American satellites. Of low cost, both stations will continue to work with those satellites until the Brazilian space device is launched. Only after that will the necessary changes be made for operation with the Brazilian satellite.

The second satellite will be that of remote sensing. It will weigh nearly 150 kilos and will be placed at between 350 and 550 kilometers altitude. It will have a repeating orbital cycle (repeated passes over the same spot on earth) at intervals of 35 days. Its mission will be that of providing pictures for earth station decoding through automatic or visual systems of analysis, by means of which they will obtain accurate and sure information on prospecting for mineral resources, as well as on agricultural, forest and oceanographic resources, clearings, storms, ecological damage, geographic mapping, soil surveys, and so forth. In that area also, the InPE has highly skilled personnel in its laboratories, who have been working with satellite sensing since 1968, using the Landsat satellite which has already produced more than 20,000 photographs of Brazil.

### Human Resources Needed for Satellite Technology Are Training in Sao Jose Dos Campos

After creating its Division of Orbital and Control Dynamics in 1977, the InPE proceeded eagerly to seek conditions for acquiring scientific and technological knowledge in the area of the dynamics and control of space vehicles. For 5 years its personnel has been doing research in an area which up until that time was entirely unknown in Brazil because of the very high degree of specialization required. Foreign technicians came to teach in Sao Jose dos Campos and many InPE teams went to countries possessing space technology in search of "know-how." Through perseverance, the development of technical and human resources for ambitious projects was managed, among them being Brazilian aspirations in the field of nuclear power and the acquisition of skills by the InPE for the operation of artificial satellites in orbit. The initial priority was given to the training of human resources. Courses leading to master's degrees in space science seek to attract personnel recently trained in Brazilian universities and in this manner obtain results in the medium term which make possible the immediate application of technology having to do with artificial satellites. Development was so fast that today the InPE already offers master and doctor programs in Space Vehicle Guidance and Control, at the same time that it expands its international exchanges at the level of researchers.

Six basic projects now cover applications in space missions in the field of determination and control of orbit and altitude (positions of satellites in space) and theoretical and logistic support. Project "Orbat" one of the basic projects of the division, develops programs in the area of orbital and altitude control dynamics, whose results are destined to be used for the Brazilian mission in the phases of planning and operation of the satellite. Another project, "Contat," develops, builds and improves orbit and altitude control systems. Project "Tereal," in turn, has the task of feeding the computers for the operation of space



Highly specialized teams work on the project and on the construction of each specific sector of the Brazilian weather satellite.

missions. Another project, "Dopler," produces the determination of geodesic coordinates for satellite pictures, while "Geop" determines the coefficients of spherical harmonics which affect the gravitational force between the earth and the satellite. Laser guns will support tracking and collection of data.

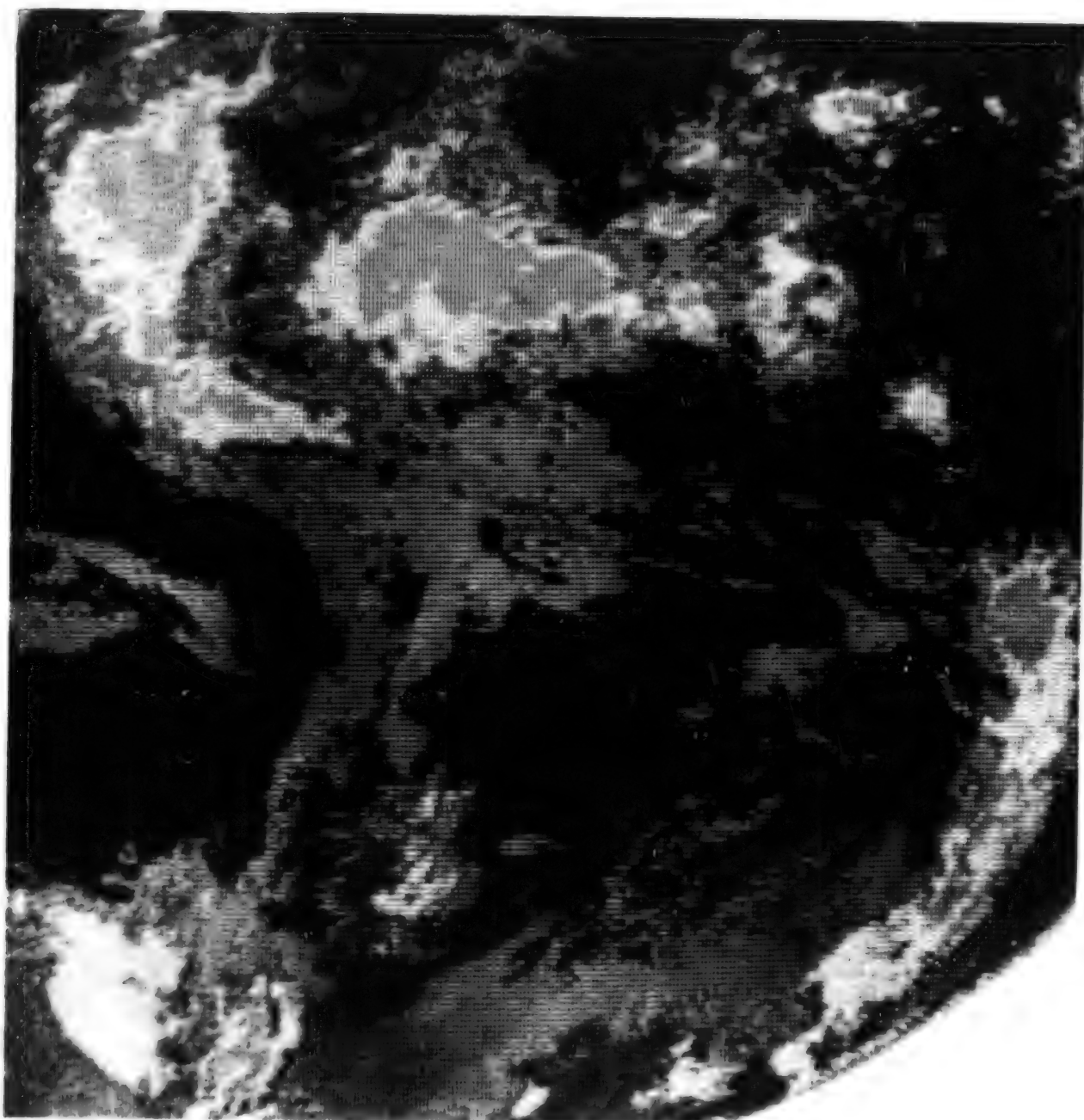
#### Soon Brazilian Technicians May Arrive at Advanced Rocket Types and even an Intercontinental Ballistic Missile

The experience of Brazil in the field of space research goes back 22 years, after the Soviet launching of the first artificial satellite, Sputnik, in 1957. At that time, a group of pioneers led by Aldo Vierira da Rosa, proposed the creation of the then Organizing Group for the National Commission on Space Activities. With imported earth instruments, and taking advantage of the launching of foreign rockets and sounding rockets in Brazil, the Aldo team established the bases for space science among us. Given the geographic position Brazil occupies, rocket launchings became routine in the country. The need for special installations caused the creation of the Barreira do Inferno, Rio Grande do Norte, Rocket Launching Center. By the end of the decade of the 60's, after studies in the United States, the group began to work within the CTA [Aerospace Technology Center] of Sao Jose dos Campos, creating the Space Activities Institute. Those who remained with the old GOCNAE [Organizing Group of the National Commission on Space Activities] became what is now the InPE. The decade of the 60's thus marked the first steps by our scientists in the space science field by means of atmospheric sounding rockets. The next decade would be enhanced by the work of the InPE in the reception and evaluation of pictures from satellites which observed the earth, that is, remote sensing satellites. Brazil appeared at that time in its entirety in the photographs transmitted by the Landsat satellite, revealing natural resources, soil contours, status of crops, forests, water, and so forth. More than 1,000 national or foreign institutions became users of the pictures received by the Cuiaba, Mato Grosso, receiving station, which are later processed in the laboratories of Cachoeira Paulista, Sao Paulo, both belonging to the InPE. There are also many other users supplied with other pictures, which are interpreted by computers or visually, from the weather satellites, another space technology assimilated and developed by technicians and scientists of Sao Jose dos Campos. The InPE also uses an aircraft equipped with sensors which are compatible with those of the satellite for calibrating the data received from satellites at lower altitudes and providing photographic images. It also uses data collected by stratospheric balloons (a high altitude presatellite) and by rocket probes.

Because of that sophisticated development, the InPE was called upon to plan and build the prototypes of the earth stations for the national security net. They will be connected to the communications satellite, which is being negotiated for with a foreign manufacturer by the Ministry of Communications. An explanation on this point is necessary: The communications satellite and its launching vehicle to be acquired abroad (possibly from France or Canada), have nothing to do with the remote sensing and weather satellites Brazil is building. The communications satellite with a geostationary orbit (which means it will always be orbiting over Brazilian territory in synchronization with the earth's rotation), will be purchased soon due to the exigencies of time and to the proven experience by those countries in the field. It is provided with channels for telephone,



The pictures sent by the Brazilian satellite will be received by special equipment which will show weather conditions in different regions of the earth in color photographs. Based on that information, our technicians will be able to make sure forecasts.



The equipment for a weather satellite data collecting station was built at the InPE





Picture of the type to be transmitted by the Brazilian weather satellites

television, facsimile (a sort of space Xerox for documents) and telex also. It is for use by EMBRATEL [Brazilian Telecommunications Company], which in that way will have its own system of telecommunications via satellite, since it has been using the services of a private company of the international consortium Intelsat for a long time and in a large volume. The day will come when the InPE will build the communications satellites we need, since space technology for satellites is the same for all of them. In that respect, the advance made by the InPE, not only in technology but in its contributing divisions, is significant. This is primarily so in the areas of materials, sensor systems and devices, digital systems, optics, instruments, control and guidance of satellites, telemetry, propellants and combustion process, which make up a horizon in which national industry is also sharing. At every moment there appear in Sao Jose dos Campos, in the laboratories of the InPE, new research groups in space technology, such as the one which developed solar cells to provide a power supply for Brazilian satellites. The first results of the work was the manufacture of monocrystalline silicon cells obtained from derivatives of monocrystalline silicon of the P type to which boron is added and which were provided by the microelectronic laboratory of the University of Sao Paulo.

The effort by the IAE has been no less in the search for the launching vehicle for the Brazilian satellites. The stage reached is so high that after developing a "family of Sonda rockets with propellants which are also national, the IAE is practically approaching the ideal launcher, which can very well be converted into an intercontinental ballistic missile. After creating the single-stage Sonda II, the field was opened for another generation of rockets, the Sonda III, capable of transporting 60 kilos to a height of 600 kilometers and having the Sonda II as its first stage. The Sonda IV will be tested this year. It can carry 500 kilos to an altitude of 600 km and is the basic unit for a satellite launcher. The launcher will be complete when the next generation of the Sonda appears. It will be made up of the body and engines of the previous missiles but with four additional engines in its first stage in addition to the normal two engines in the second and third stages. As large and powerful as the Ariane rockets (French) or the Titan and Atlas Centaur (United States), with 16.5 meters in height, it will be able to transport a satellite of 150 kilos into a heliosynchronous orbit more than 550 kilometers high. In other words, they will be the ones to take Brazilian satellites into space from Alcantara.

8908

CSO: 5500/2248

COLOMBIA

BRIEFS

SAN ANDRES TELEVISION SERVICE--Cartagena--The National Radio and Television Institute, Inravision, has announced that television service will be brought directly to San Andres y Providencia and Leticia in the Amazon region. (Alejandro Montejo Carrasco), director of Inravision, confirmed that the signal will be sent directly from Bogota to those two autonomous [word indistinct] of Colombian television. [words indistinct] of the first and second network with pleasant programs will be sent to them, thus fulfilling President Turbay Ayala's goal of achieving national integration. He said that this program of transmitting the television signal from Bogota to those zones is part of the so-called border program designed by the chief of state to defend us from what has been called the cultural invasion from other countries. [Text] [PA061710 Bogota Domestic Service in Spanish 1730 GMT 5 Jun 82]

CSO: 5500/2260



CUBA

# OFFICIAL SAYS 'RADIO MARTI' CAN BE COUNTERED

FL241515 Havana Domestic Service in Spanish 1000 GMT 24 May 82

[Excerpts] Numerous activities continue throughout the country honoring the Cuban Radio and Television Institute's [ICRT] 20th anniversary. On Saturday, a solemn ceremony was held in Havana commemorating the important date. The ceremony was presided over by alternate Politburo members Antonio Perez Herrero and Jose Ramirez Cruz; Central Committee member and vice president of the Council of Ministers, Jose Ramon Fernandez; alternate Central Committee member and chief of its Department of Revolutionary Orientation, Orlando Fundora; and ICRT president, Nivaldo Herrero.

Antonio Perez Herrero, also member of the party Secretariat, condemned the U.S. imperialist's plan to put on the air the counterrevolutionary radio station, which adding insult to injury has been named Radio Jose Marti. Perez Herrero said he was certain that knowing our cause is just and relying on the efforts of the Cuban broadcasting workers, we can counter the ideological venom spread by this imperialist station.

A Managua domestic broadcasting service [Radio Sandino] guest delegation also presided at the ceremony.

CSO: 5500/2264

ADDIS ABABA, TRIPOLI, ADEN SIGN MEDIA COOPERATION

NC290821 Paris AFP in English 0725 GMT 29 May 82

[Text] Addis Ababa, 29 May (AFP) -- Information ministers of Libya, Ethiopia and South Yemen ended a two-day meeting here yesterday with the signing of an agreement on mass media cooperation and coordination.

A communique on the talks said the three countries, linked in a tripartite treaty of friendship and cooperation, would "exert efforts to dismantle the imperialist information monopoly". They would also contribute to the establishment of a new international information order whilst strengthening their ties with the socialist community of nations, it said.

No details were given as to how this was to be achieved but it was believed the agreement was in essence a reiteration of principles. Strategies and methods were to be worked out at a future third meeting by the ministers, sources said.

CSO: 5500/2264

## INTER-ARAB AFFAIRS

### BRIEFS

**BAHRAIN-OMAN TELEPHONE LINK**--Bahrain introduced a direct telephone dialing link to Oman yesterday to mark HH the amir's visit to the Sultanate. Announcing the decision, Ibrahim Humaydan, minister of transport and chairman of Bahrain Telecommunications Company, said Oman was the only GCC member state up until yesterday not to have a direct dialing link with Bahrain. "The introduction of an international subscriber dialing service will further strengthen the friendship and brotherhood which link the people of both countries," he said. [Excerpt] [GF251145 Manama Gulf Daily News in English 25 May 82 GF]

**'ADEN TREATY INFORMATION MEETING**--The second information committee meeting of the signatories of the Aden Tripartite Treaty of Friendship and Cooperation ended in Addis Ababa today with the signing of an agreement on mass media cooperation and coordination. The agreement is within the framework of the Aden Treaty of Friendship and Cooperation between Ethiopia, Democratic Yemen and the Libyan Jamahiriyyah and the recommendations of the political committee of the three countries. It is aimed at promoting and augmenting the role of information media of the three fraternal countries in repulsing imperialist, Zionist, reactionary and racist propaganda. The agreement was signed by the information minister of the three countries: Comrade Girma Yilma of Ethiopia; Comrade Muhammad 'Abd al-Qawi of Democratic Yemen; and brother Abd Ar-Rahman Shalgam of the Libyan Jamahiriyyah. The three countries agreed to strengthen information organs in the three states and provide jointly the necessary facilities to develop and promote their effectiveness. They also agreed to exert efforts to dismantle the imperialist information monopoly and to contribute their share toward the establishment of a new and just international information order. [Excerpt] [EA290732 Addis Ababa in English to neighboring countries 1530 GMT 28 May 82 EA]

CSO: 5500/2263

BRIEFS

TELEPHONE LINK WITH EGYPT—Bahrain Telecommunications Company adds Egypt to its international subscriber dialing service (ISD) list from tomorrow. The introduction of the service is part of the continuous programme aimed at providing ISD to all countries in the world from Bahrain. [Excerpt]  
[GF311115 Manama GULF DAILY NEWS in English 31 May 82 p 5 GF]

CSO: 5500/2263

IRAN

RADIO, TV DIRECTOR ON DOMESTIC, FOREIGN BROADCASTS

GPO41205 Tehran ETTELA'AT in Persian 22 May 82 p 4

[Excerpts] Prime Minister Mir-Hoseyn Musavi, the roads and transportation minister, the director-general of the Voice and Vision of the Islamic Republic of Iran and the Bushehr governor general, inspected the various sections of the television center of (Kuh Mond), which is located in the south of Bushehr, after its opening ceremony. During this inspection, Mir-Hoseyn Musavi lauded the services of the employees of this center.

According to the IRNA correspondent, Mr Mohammad Hashemi, the director general of the Voice and Vision of the Islamic Republic of Iran spoke to correspondents about the operations of the new transmitter.

Regarding the extent of the area covered by the new transmitter, Mr Hashemi said: This transmitter covers 90 percent of Bushehr Province from Bandar-e Asaluyeh to Bandar-e Deylam, the cities of Bushehr, Borazjan and 360 villages and even beyond the frontiers. It also covers some Gulf countries, including Kuwait.

Regarding the programs of the Voice and Vision for the domestic and external services, Mr Hashemi said: At present, 64 projects are underway on the domestic level. Most of them will be completed by the end of this year and some by next year. These projects include powerful radio television and FM transmitters which are being completed according to the needs of the region and which will cover the domestic and external areas in a better way.

He added: At present, more than 80 percent of the population of the country can view the Channel 1 programs of the Vision of Iran and over 90 percent can hear the Voice of the Islamic Republic's programs.

Mr Hashemi then spoke about future programs. He said: The farflung areas of the country have a greater priority as far as we are concerned because under the present circumstances, although some parts of the country are covered by six channels, others do not have a single transmitter.

He continued: The problem of the external services also has great priority because at present, 35 radios are broadcasting against the Islamic revolution in Persian and include mostly [news from] the international press.

In conclusion, he said: During the current year, we have in hand three important foreign broadcasting projects which will soon be implemented.

CSO: 5500/2264

IRAN

BRIEFS

NEW FM TRANSMITTER--A 1-kilowatt FM radio transmitter began work in Urumiyeh on 7 June. The transmitter broadcasts on the FM 103.7 MHz band and will enable the people of Urumiyeh to receive live broadcasts of the Islamic Consultative Assembly proceedings and the first program of the state television network at 1800. [Tehran Domestic Service in Persian 1630 GMT 7 Jun 82 LD]

CSO: 5500/2264

KUWAIT

BRIEFS

KUNA EXPANDS INTERNATIONAL SERVICE--Kuwait, 1 Jun (KUNA)--Kuwait News Agency today started transmitting its foreign services in English and Arabic simultaneously. Eleven new frequencies, in addition to the 11 already in operation, are being used for the new transmission. In all, KUNA started using 22 frequencies in beaming its foreign news services to such regions as the Gulf, the Middle East, Central Africa, North Africa, North Europe, Central Europe, the Near East and the Far East. [Text] [GF021045 Kuwait ARAB TIMES in English 2 Jun 82 p 1]

CSO: 5500/2263

## TELECOMMUNICATION PLAN GOES IN ACTION

Kuwait ARAB OIL in English No 5, May 82 pp 10-11

[Text]

**S**audi Arabia, previously the owners of a substandard telecommunications system, have begun to implement Medarabtel, a giant 40 billion dollar telecommunications 'master plan'. The brainchild of the International Telecommunications Union, ITU, Medarabtel will use cable, microwave and satellite, to link 28 Arab and Mediterranean countries. The scheme is funded by the United Nations Development Program, and the participating countries.

Saudi Arabia's main interest in the project is that it will provide a backup facility for the international satellite service, Intelsat, on which the country relies for its overseas communications.

The first part of the Medarabtel plan started last month, with the signing of an 18 million dollar contract between the North Yemeni government, and a French-Italian joint venture. The contractors Thomson, CSF of France and Telettra of Italy, will set up a microwave network linking Saudi Arabia, North and South Yemen, Somalia and Djibouti.

The system will incorporate 900 telephone channels, plus radio and television outlets. Saudi, at present has only 22 telephone channels available via satellite, to North Yemen, but has an estimated demand of 300 channels.

**Aid**

Eventually Medarabtel will aid com-

munications from Saudi Arabia, to other Arab countries in the west and north.

Another project within the Medarabtel system, is the construction of an inter-continental submarine cable, to link Jeddah with Singapore, Indonesia and Sri Lanka, by hooking into the Medarabtel network. The cable project will cost an estimated 500 million dollars.

Another part of the Medarabtel plan includes the setting up of an extended telecommunications link with Europe, and International, national and regional telecom routes to manage the broadcasting and exchange of sound and television programs. Nationally, the plan will extend the existing telecom link, by about 10,000 route kilometres of microwave, together with 2,000 kilometres of coaxial cable. This will involve the construction of an earth station at Jeddah, and a new cable route between Riyadh and Taif.

The Ministry of Ports, telegraph & telephones has planned the introduction, next year, of a public facsimile service, 'Bureau Fax', for destinations in the US. It also plans Datel data transmission links with European and Asian networks by the middle of next year. Other services already provided on a leased circuit basis, are access to data banks, and international financial news.

**Division**

Medarabtel, divides the Arab world into six sub-regions, based on the need for an integrated regional network, dictated by future circuit requirements, routing, and choice of transmission systems. Sub-region one includes Saudi Arabia, North Yemen, South Yemen, Djibouti, Somalia and Ethiopia. Sub-region two, Saudi Arabia,



Kuwait, Bahrain, Oman, Qatar and the United Arab Emirates. Sub-region three, Saudi Arabia, Jordan, Syria, Lebanon and Iraq. Sub region four, Saudi Arabia, Egypt and Sudan, and sub-regions five and six the other countries in the region.

The Director General of Long Distance communication in the Ministry of Posts, telegraph and Telephones, PTT, Zohair Al-Musallam, stated that the country's first priority was to develop a sound domestic communications network, before extending it across the borders. This has already been done, with a complete automatic dialing system between domestic cities, he said.

#### Linked

The countries of the six sub-regions will be linked by a network of microwave and coaxial cable, with each country responsible for its own section. According to Al-Musallam, Saudi Arabia has already started work on its portion of the network, and is ahead of the others in this respect.

At the present time, Saudi Arabia is one of 106 countries sharing Intelsat, which is expensive and overloaded. According to Al-Musallam, the current rate for TV transmission, is 970 dollars for the first ten minutes, and 30.5 dollars for each additional minute. Prices for radio transmission are 19.4 dollars and 1.9 dollars respectively. However, this expense is sometimes offset by exchanges of programs, and sports telecasts with other countries.

A microwave station is under construction, which will link Saudi Arabia to Kuwait, and complement the existing coaxial cable link. Also in the works is a coaxial cable to link Saudi Arabia with Jordan and Syria. This project is part of a larger link which will

enable Saudi and the other countries to be hooked into the European circuit. The coaxial cable will extend up to Syria, from where it will connect with Greece via a cable on the seabed of the Mediterranean. Al-Musallam added that this project would provide a standby for Intelsat.

Saudi Arabia is the sixth largest user of Intelsat, and makes the sixth highest number of international calls, according to ITU. The introduction of automatic dialing, which the country supplies for 110 countries worldwide, was responsible for the vast increase in telecommunications traffic in recent years.

Saudi Arabia is linked with 38 foreign countries by Intelsat, with a total number of 1,210 Intelsat circuits, a rise from only 850 at the end of 1980.

Existing terrestrial telecom links cover Bahrain and Sudan by microwave, and Kuwait by coaxial cable, with planned links to Qatar, Kuwait, UAE, Iraq and Yemen Arab Republic, by microwave. Bahrain will be linked by coaxial cable and Jordan and Syria by both microwave and coaxial cable. The aim is to provide backup services in each case.

In 1970, there were 50,000 telephone lines in service throughout Saudi Arabia's ten major towns. In 1975 there were 135,000, 435,000 lines in 1980 and 750,000 last year. The number of telephone subscribers is expected to increase to about 1.2 million by 1984, consequently, the third five-year plan, 1981-85, will provide an increase in inter-city trunk dialing services to new towns and rural areas.

Telex switchers will also be expanded this year, from 15,000 to 30,000 subscriber units.

## BRIEFS

**EXTENSION OF MICRO-WAVE RADIO SYSTEM**--The national micro-wave radio network which constitutes the country's main trunk circuits is to be extended by some 250 kilometres under the rehabilitation programme of the International Telecommunications Services (ITS) to provide alternative routing of traffic in the event of congestion and breakdown in the radio links. Under the project new automatic telephone exchanges with a total capacity of 18,500 lines will be provided at Accra Central, Teshie/Nungua, Takoradi, Ho, Tarkwa, Dunkwa, Obuasi, Bekwai and Denu/Aflao. Also, additional micro-wave links will be provided for Takoradi-Kumasi, Accra-Tema, Koforidua-Nkawaw and Ho-Hohoe. The move to modernise the country's telecommunications system was announced at a press conference held in Accra yesterday by the Posts and Telecommunications Corporation in connection with the 14th World Telecommunication day. [Excerpt] [Accra DAILY GRAPHIC in English 18 May 82 p 8]

CSO: 5500/5831

## SOUTH AFRICA

### BRIEFS

**CIVIL AVIATION COMMUNICATIONS SYSTEM**--The Ghana Government have awarded contracts worth more than £2m. to Rediffusion Radio Systems for supply of civil aviation communications systems. The initial order has since been extended and now includes beacons and other equipment as well as a number of fully engineered systems. The principal part of the order covers supply of a comprehensive system for the flight information centre at Kotoka International Airport Accra and this is complemented by a number of aeronautical fixed telecommunications networks (AFTNs) at the provincial airports of Kumasi, Sunyani and Tamale. In addition to supplying, installing and commissioning of equipment of Ghana, Rediffusion will also provide training for key personnel at their training school in Britain. [Text] [London WEST AFRICA in English No 3382 31 May 82 p 1469]

**TV2/3 TEST TRANSMISSION**--The SABC has announced that the TV2/TV3 transmitter at the Potgietersrus transmitting station started with technical test transmissions on May 28. Only colour patterns will be transmitted up to June 11, when test transmissions of the normal TV programmes will begin. The first month of operation will be a test period in which transmission may be interrupted without warning or apology. [Text] [Johannesburg THE CITIZEN in English 4 Jun 82 p 2]

CSO: 5500/5825

MINISTER NOTES PROGRESS OF NATION'S PANAFTEL PROJECT PORTION

Dar es Salaam DAILY NEWS in English 31 May 82 p 1

[Article by Isaac Muma]

[Excerpt]

A telecommunications link through Newala would enable Tanzania and Mozambique to communicate with each other directly, the Minister for Communications and Transport, Ndugu John Malecela, said yesterday.

Other links to Burundi and Rwanda through Nigoma would also enable the two countries to communicate with Tanzania without having to go through Europe as presently is the case, he explained.

Ndugu Malecela, who was speaking to reporters on arrival yesterday from Arusha where he attended a Pan African Postal Union (PAPU) conference, said the links were part of the Pan African Telecommunications (PANAFTEL) network.

PANAFTEL aims at enabling African countries to

communicate among themselves without necessarily having to go long distances through Europe.

The Minister, who was asked to comment on the progress of the Tanzania's project portion under PANAFTEL, said the implementation of project was proceeding satisfactorily.

The Minister said the links with Zambia would go through Mbeya in south western Tanzania.

He said he was hopeful that this year's end, the links would be completed between Tanzania and Burundi and Zambia.

A considerable amount of work would also be done on the link going through Newala and it was likely that Tanzania would complete her portion earlier, he said.

CSO: 5500/5830

COLOR TV READY BY OCTOBER, SAYS MINISTER

Harare THE HERALD in English 29 May 82 p 3

[Text]

**ZIMBABWE** will be fully geared up for colour television in five months' time, the Minister of Information, Posts and Telecommunications, Dr Nathan Shamuyarira, announced here yesterday.

The minister said colour transmission would be "fully ready" by October when making a tour of the Posts and Telecommunications Corporation (PTC) facilities in the city.

Already owners of colour sets in the country are able to receive many programmes in colour, though the technical quality varies.

He also announced that a new grading structure based on ability to perform certain tasks rather than academic qualifications is to be introduced for workers in the PTC.

Dr Shamuyarira, who has been visiting establishments and installations in Matabeleland, said that he had been interested to note that there were no racial prejudices within the corporation. There was advancement of the corporation's 8 000 employees and the new political order, based on equality,

was being followed.

"There are many employees who served the corporation well during the war and have acquired a lot of experience, so that they have become skilled although they have no certificates.

"Some of them were even down-graded under the old system," the minister said.

It was for this reason, he said, that the whole PTC structure was being reviewed so as to recognise experience rather than place too much emphasis on certificates.

"The ministry is considering increments for PTC staff, whose salaries were last increased in 1971, he added.

PTC expansion plans included the laying of underground cables for Bulawayo's western areas so that individual householders could have telephones.

CSO: 5500/5829

## RSFSR PAPER INTERVIEWS BROADCASTING OFFICIAL

PM241445 Moscow SOVETSKAYA ROSSIYA in Russian 16 May 82 p 3

[A. Rusakov interview with G.Z. Yushkyavichyus, deputy chairman of the USSR State Committee for Television and Radio Broadcasting, under the rubric "Interview at Your Request": "On and Behind the Screen"]

[Excerpts] "I have to visit various cities in the country on official business. Who is not familiar with long evenings far from one's home and family? For the most part you while away the time in front of the hotel television screen. I have recently begun to notice a sharp improvement in picture quality in many cities, even ones very far from Moscow. But in other regions considerably closer to the 'center' it is greatly inferior to that in the capital. Does this depend on the television sets?" -- N. Serov writes from Moscow.

G.A. Yushkyavichyus, deputy chairman of the USSR State Committee for Television, deputy chairman of the USSR State Committee for Television and Radio Broadcasting, answers these questions.

[Question] So, large distances do not prevent television signals penetrating very remote centers of population. Why, then, are there still "blank spaces" on the country's television broadcasting map?

[Answer] Obviously, with rapid development in any sphere, both contradictions and disproportions arise.

One of the contradictions is that viewers closer to Moscow sometimes receive central television pictures of lower quality than remote viewers. The point is that in this case television signals are transmitted along radio relay lines which are still frequently of old design. They cannot ensure transmissions of such high quality as those provided by modern satellite systems which relay central television programs to Siberia, the Far North or the Far East.

Another fact, as important as it is unpleasant, many people believe that if some places are without television, then this is only in remote regions. Nothing of the kind. The largest number of people -- and there are several million of them -- who are now deprived of the possibility of watching television broadcasts live in the European part of the country. Why is this?

Our industry has produced and is still continuing to produce an inadequate number of television transmitters. In addition it is economically inexpedient to resolve the problem of television coverage only by means of constructing new radio relay lines even for the European part of the country. It is more profitable to do so with the help of communications satellites. Hence the conclusion that we need a considerably greater number of not only television transmitters and retransmitters but also of space communications ground stations.

Our industry has developed the excellent Moskva ground station, which has made a good name for itself in the most diverse places. Its important merit is that it is comparatively inexpensive. With the help of this station and, I would say, precisely thanks to it, it is possible to successfully resolve the task set by the 26th CPSU Congress of extending the two all-union television channels both in the Far East and in the European part of the country. But for this it is necessary sharply to increase the volume of production of these stations.

The spread of the second all-union channel and the general increase in the number of programs being transmitted demand the use of a large number of television channels. The meter band, which has been used for decades to transmit television broadcasts, has now been exhausted, and therefore many new transmitters work on decimeter wavelengths. And if industry does not take urgent measures, another unpleasant disproportion will arise -- between the number of transmitters working in the decimeter band and the network of television receivers capable of receiving these programs.

It should also be taken into account that the proportion of all-wave television sets is negligible, they cannot work from a meter-band collective antenna, and in the majority of cases a room antenna does not give good results. All this indicates that it is possible to assimilate the decimeter band in television broadcasting only on the basis of the coordinated development of the transmitting and receiving networks.

And, finally, the greatest disproportion exists today between the volume of color programs and the number of color television sets. Central television makes all its programs in color. Certain republican studios no longer have any equipment left for black and white transmissions. At the same time the proportion of color sets stands at approximately 12 percent of the total, so that 88 percent of viewers watch color broadcasts in black and white.

CSO: 5500/2264

## BRIEFS

NORWEGIAN TELECOMMUNICATIONS CONTRACT--A telecommunications station, which will automatically connect Greece with all ships, will be established in Thermopyles by a Norwegian company. The value of the mechanical and electrical equipment of the station, which the Norwegian company will supply, totals 6 million dollars. The construction work will be carried out by Greek companies. The project was announced Friday by Commerce Undersecretary Yannis Papaspyrou who had relevant contacts and talks with representatives of the Norwegian government and businessmen during his recent trip to Scandinavian countries. The Norwegians, he said have also proposed the setting up of a project in Greece worth 500 million drachmas for the connecting of the television stations with transmitters which will be erected in various parts of the country. [Text] [Athens ATHENS NEWS in English 30-31 May 82 p 7]

CSO: 5500/5343



## ITALY

### PCI PROPOSED MEASURES FOR TELECOMMUNICATIONS INDUSTRY

Rome L'UNITA in Italian 25 May 82 p 6

[Text] Rome--Beginning today and for 2 days, 500 union leaders and delegates from the telecommunications sector will convene at a special meeting in Rome. The meeting--which will be held in the Brancaccio Theater--will be opened with a report by Federation Secretary Del Piano and closed by Giacinto Militello. All interested walks of that sector will participate: the metalworkers, postal, telegraph and telephone workers, the ASST [National Telephone State Board], SIP [Italian Telephone Company], Italcable and RAI-TV [Italian Radio Broadcasting and Television Company] workers, printers and graphic arts workers, researchers. Tomorrow afternoon there will also be a round table discussion that will include, besides Galbusera, representatives of the PCI [Italian Communist Party], PSI [Italian Socialist Party], DC [Christian Democratic Party] and members of management of enterprises within the sector.

Rome--For the telecommunications sector, these are important weeks: Far-reaching decisions are involved (from the appointment of officials of the state-controlled corporations to the choice of planning and management alternatives) at a time when this pivotal sphere of industrial and service activities is in the throes of a severe crisis and paying for past errors. The communists hold that this is an opportunity that must be heeded to revitalize the sector and make a clean break with the errors and power balances of the past. To this end, the socio-economic department of the PCI has given wide circulation to a memorandum that summarizes in nine points the important measures to be adopted:

1) A distinct separation must be made between productive activities and service activities, putting an end to a system that has yielded negative and perverse results. The STET [Telephone Finance Corporation] must be dissolved, and the SIP, the ASST and all the other companies in the sector must be merged into a single telecommunications enterprise. The new enterprise can be organized along the lines of a state-controlled management corporation that will operate the entire gamut of telecommunications services.

2) The manufacturing activities now being carried on as state participations must be brought under a state-controlled holding company that will coordinate

all those activities. The enterprises in this group must sign such agreements with Italian and foreign firms as may be necessary to ensure adequate input of a technological order and an adequate presence on the world market. Within these terms of reference, the PCI emphasizes the importance of an ITALTEL-Olivetti agreement, in addition to agreements with foreign partners.

3) The Telecommunications Plan (recently passed) must be implemented with the specific and necessary revisions required to provide for quality and quantity of services, investments, switching systems and employment. The communists stress the need to streamline the activities of the sector into only two electronic switching systems: One hubbing on ITALTEL, and the other on that multinational group (or those multinational groups) offering the best choices from the standpoint of technology, production within the national territory, and cooperation with Italian industry in accessing foreign markets.

4) The government must draw up and submit to Parliament a proposed overall solution to the sector's unemployment problems.

5) Control of the service activities must remain with the Ministry of Posts and Telecommunications, which must form a technically qualified departmental body to carry out the specific functions of control, planning and promotion. All services management activities (with the exception of the postal) must be brought into this services management ambit.

6) Rate changes must be based on actual coverage of costs (operations, maintenance, depreciation, allocation for investments); rates must not cover waste, duplications, errors. On this clear and transparent basis, rate changes must be made rapidly, upwards as well as downwards, thus precluding any tendency towards automatization or indexation.

7) For the appointments that are to be made within the next few days in state-controlled corporations and for those relative to the definitive reform and tidying up of the sector, the communists urge the choice of men with effective and proven enterprise management abilities, whose professionalism, honesty and loyalty to the institutions they manage can be counted upon.

8) Since the reform process must needs be a gradual one, the communists are prepared to take part in Parliament in the defining of all measures necessary to ensure the transitional phase, on the determinative condition, however, that the general objectives of the reform and a precise timetable for the carrying out of the reform will have been defined.

9) Initiatives consistent with these proposals must be undertaken by parliamentary groups, while at Rome, in June, a national congress will be convened on the outlook for telecommunications.

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CSO: 5500/2247

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JUNE 30, 1982